Nancy Adams, PhD
Safe Buildings Program
National Homeland Security Research Center
Office of Research and Development
US Environmental Protection Agency

WTC Signature for Fires

September, 2004

A Signature for Particles Released from WTC Fires Needs to be:

- Unique to WTC fires
  (Distinct from urban dusts)
- Persistent
  (Not volatile)
- Able to be detected with:
  - Small sample size
  - Low minimum detection limit
  - Low interference from other dust components
- Consistently found in impacted areas

Other Desirable Characteristics of Signature Analysis

- Low Cost
- Availability of laboratories
- Rapid analysis
- Automated assay methods

Potential WTC Fire Signatures

- Pattern of organics on dust particles
- Ratio of specific polycyclic aromatic hydrocarbons (PAHs)
- Sulfates
- Total organic carbon
- Brominated organic compounds